



Part of #6

SEQUENCE LISTING

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<120> Modular Protein Libraries and Methods of Preparation

<130> GRFN20/O1US

<140> US 09/144,838

<141> 1998-08-31

<150> US 60/057,620

<151> 1997-09-04

<160> 54

<170> PatentIn Ver. 2.0

<210> 1

<211> 81

<212> PRT

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<220>

<223> Description of Artificial Sequence:synthetic

<400> 1

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Cys Leu Ile Val Met Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Leu Ile Val Met Phe Tyr Xaa Xaa Arg Lys Ser
20 25 30

Glu Gln Xaa Leu Ile Val Met Xaa Xaa Leu Ile Val Met Xaa Xaa Xaa
35 40 45

Xaa Xaa Ser Ala Gly Xaa Xaa Cys Xaa Xaa Xaa Glu Gln Leu Ile Val
50 55 60

Met Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Leu Asp
65 70 75 80

Asn

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<210> 2
<211> 82
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 2

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Cys Leu Ile Val Met Phe
1 5 10 15

Tyr Thr Xaa Xaa Xaa Xaa Xaa Xaa Leu Ile Val Met Xaa Xaa Xaa Xaa
20 25 30

Leu Ile Val Met Phe Xaa Xaa Tyr Xaa Xaa Xaa Gly Ser Thr Asn Gly
35 40 45

Ser Thr Asn Xaa Xaa Cys Xaa Xaa Xaa Xaa Ser Ala Gly Leu Ile Val
50 55 60

Met Xaa Xaa Phe Leu Xaa Xaa Xaa Xaa Xaa Arg Lys Thr Met Phe Xaa
65 70 75 80

Xaa Cys

<210> 3
<211> 71
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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 3

Ala Gly Ser Leu Val Ser Tyr Thr Pro Asn Ser Cys Cys Tyr Gly Phe
1 5 10 15

Gln Gln His Pro Pro Pro Val Gln Ile Leu Lys Glu Trp Tyr Pro Thr
20 25 30

Ser Pro Ala Cys Pro Lys Pro Gly Val Ile Leu Leu Thr Lys Arg Gly
35 40 45

Arg Gln Ile Cys Ala Asp Pro Ser Lys Asn Trp Val Arg Gln Leu Met

Arg Gln Val Cys Ala Asp Lys Ser Lys Asp Trp Val Lys Lys Leu Met
50 55 60

Gln Gln Leu Pro Val Thr Ala Arg
65 70

<210> 6

<211> 73

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 6

Gly Asp Thr Leu Gly Ala Ser Trp His Arg Pro Asp Lys Cys Cys Leu
1 5 10 15

Gly Tyr Gln Lys Arg Pro Leu Pro Gln Val Leu Leu Ser Ser Trp Tyr
20 25 30

Pro Thr Ser Gln Leu Cys Pro Lys Pro Gly Val Ile Leu Leu Thr Lys
35 40 45

Arg Gly Arg Gln Ile Cys Ala Asp Pro Ser Lys Asn Trp Val Arg Gln
50 55 60

Leu Met Gln Arg Leu Pro Ala Ile Ala
65 70

<210> 7

<211> 93

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 7

Met Asn Ala Lys Val Val Val Val Leu Val Leu Val Leu Thr Ala Leu
1 5 10 15

Cys Leu Ser Asp Gly Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys
20 25 30

Arg Phe Phe Glu Ser His Val Ala Arg Ala Asn Val Lys His Leu Lys
35 40 45

Ile Leu Asn Thr Pro Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys
50 55 60

Asn Asn Asn Arg Gln Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln
65 70 75 80

Glu Tyr Leu Glu Lys Ala Leu Asn Lys Arg Phe Lys Met
85 90

<210> 8

<211> 67

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 8

Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
20 25 30

Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
35 40 45

Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
50 55 60

Ala Leu Asn
65

<210> 9

<211> 91

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 9

Met Lys Val Ser Ala Ala Arg Leu Ala Val Ile Leu Ile Ala Thr Ala

1 5 10 15
 Leu Cys Ala Pro Ala Ser Ala Ser Pro Tyr Ser Ser Asp Thr Thr Pro
 20 25 30
 Cys Cys Phe Ala Tyr Ile Ala Arg Pro Leu Pro Arg Ala His Ile Lys
 35 40 45
 Glu Tyr Phe Tyr Thr Ser Gly Lys Cys Ser Asn Pro Ala Val Val Phe
 50 55 60
 Val Thr Arg Lys Asn Arg Gln Val Cys Ala Asn Pro Glu Lys Lys Trp
 65 70 75 80
 Val Arg Glu Tyr Ile Asn Ser Leu Glu Met Ser
 85 90

<210> 10
 <211> 68
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:synthetic

<400> 10
 Ser Pro Tyr Ser Ser Asp Thr Thr Pro Cys Cys Phe Ala Tyr Ile Ala
 1 5 10 15
 Arg Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly
 20 25 30
 Lys Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln
 35 40 45
 Val Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser
 50 55 60
 Leu Glu Met Ser
 65

<210> 11
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 11

Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
20 25 30

Asn

<210> 12

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 12

Lys Pro Val Ser Leu Ser Tyr Arg Cys Cys Arg Phe Phe Glu Ser His
1 5 10 15

Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro Asn
20 25 30

<210> 13

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 13

Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Phe Ala Tyr Ile Ala
1 5 10 15

Arg Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly
20 25 30

Lys

<210> 14

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 14

Lys	Pro	Val	Ser	Leu	Ser	Tyr	Arg	Cys	Cys	Phe	Ala	Tyr	Ile	Ala	Arg
1				5				10					15		

Pro	Leu	Pro	Arg	Ala	His	Ile	Lys	Glu	Tyr	Phe	Tyr	Thr	Ser	Gly	Lys
			20				25						30		

<210> 15

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 15

Ser	Pro	Tyr	Ser	Ser	Asp	Thr	Thr	Pro	Cys	Cys	Phe	Ala	Tyr	Ile	Ala
1				5				10					15		

Arg	Pro	Leu	Pro	Arg	Ala	His	Ile	Lys	Glu	Tyr	Phe	Tyr	Thr	Ser	Gly
				20				25					30		

Lys

<210> 16

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 16

Ser	Pro	Tyr	Ser	Ser	Asp	Thr	Thr	Pro	Cys	Pro	Cys	Phe	Ala	Tyr	Ile
1				5					10					15	

Ala	Arg	Pro	Leu	Pro	Arg	Ala	His	Ile	Lys	Glu	Tyr	Phe	Tyr	Thr	Ser
			20					25						30	

Gly Lys

<210> 17

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 17

Ser	Pro	Tyr	Ser	Ser	Asp	Thr	Thr	Pro	Cys	Cys	Arg	Phe	Phe	Glu	Ser
1				5					10					15	

His	Val	Ala	Arg	Ala	Asn	Val	Lys	His	Leu	Lys	Ile	Leu	Asn	Thr	Pro
			20					25						30	

Asn

<210> 18

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 18

Ser	Pro	Tyr	Ser	Ser	Asp	Thr	Thr	Pro	Cys	Pro	Cys	Arg	Phe	Phe	Glu
1				5					10					15	

Ser	His	Val	Ala	Arg	Ala	Asn	Val	Lys	His	Leu	Lys	Ile	Leu	Asn	Thr
			20					25						30	

Pro Asn

<210> 19
<211> 34
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 19
Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln Val
1 5 10 15
Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
20 25 30

Leu Asn

<210> 20
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 20
Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln Val
1 5 10 15
Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser Leu
20 25 30

Glu Met Ser
35

<210> 21
<211> 34
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 21

Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln Val
1 5 10 15

Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
20 25 30

Leu Asn

<210> 22

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 22

Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln Val
1 5 10 15

Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser Leu
20 25 30

Glu Met Ser
35

<210> 23

<211> 67

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 23

Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
20 25 30

Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
35 40 45

Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
50 55 60

Ala Leu Asn
65

<210> 24
<211> 68
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 24
Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
20 25 30

Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
35 40 45

Val Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser
50 55 60

Leu Glu Met Ser
65

<210> 25
<211> 67
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 25
Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
20 25 30

Asn Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln
 35 40 45

Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
 50 55 60

Ala Leu Asn
 65

<210> 26
 <211> 68
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:synthetic

<400> 26
 Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser
 1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
 20 25 30

Asn Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln
 35 40 45

Val Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser
 50 55 60

Leu Glu Met Ser
 65

<210> 27
 <211> 66
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:synthetic

<400> 27
 Lys Pro Val Ser Leu Ser Tyr Arg Cys Cys Arg Phe Phe Glu Ser His
 1 5 10 15

Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro Asn

20 25 30
 Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln Val
 35 40 45
 Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
 50 55 60
 Leu Asn
 65

<210> 28
 <211> 67
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:synthetic

<400> 28
 Lys Pro Val Ser Leu Ser Tyr Arg Cys Cys Arg Phe Phe Glu Ser His
 1 5 10 15
 Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro Asn
 20 25 30
 Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln Val
 35 40 45
 Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser Leu
 50 55 60
 Glu Met Ser
 65

<210> 29
 <211> 66
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:synthetic

<400> 29
 Lys Pro Val Ser Leu Ser Tyr Arg Cys Cys Arg Phe Phe Glu Ser His
 1 5 10 15

Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro Cys
20 25 30

Asn Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln Val
35 40 45

Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
50 55 60

Leu Asn
65

<210> 30
<211> 67
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 30
Lys Pro Val Ser Leu Ser Tyr Arg Cys Cys Arg Phe Phe Glu Ser His
1 5 10 15

Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro Asn
20 25 30

Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln Val
35 40 45

Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser Leu
50 55 60

Glu Met Ser
65

<210> 31
<211> 67
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 31

Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Phe Ala Tyr Ile Ala
 1 5 10 15

Arg Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly
 20 25 30

Lys Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
 35 40 45

Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
 50 55 60

Ala Leu Asn
 65

<210> 32

<211> 68

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 32

Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Phe Ala Tyr Ile Ala
 1 5 10 15

Arg Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly
 20 25 30

Lys Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
 35 40 45

Val Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser
 50 55 60

Leu Glu Met Ser
 65

<210> 33

<211> 67

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 33

Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Phe Ala Tyr Ile Ala
1 5 10 15

Arg Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly
20 25 30

Lys Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln
35 40 45

Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
50 55 60

Ala Leu Asn
65

<210> 34

<211> 68

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 34

Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys Phe Ala Tyr Ile Ala
1 5 10 15

Arg Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly
20 25 30

Lys Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln
35 40 45

Val Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser
50 55 60

Leu Glu Met Ser
65

<210> 35

<211> 66

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 35

Lys Pro Val Ser Leu Ser Tyr Arg Cys Cys Phe Ala Tyr Ile Ala Arg
1 5 10 15

Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly Lys
20 25 30

Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln Val
35 40 45

Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
50 55 60

Leu Asn
65

<210> 36

<211> 67

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 36

Lys Pro Val Ser Leu Ser Tyr Arg Cys Cys Phe Ala Tyr Ile Ala Arg
1 5 10 15

Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly Lys
20 25 30

Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln Val
35 40 45

Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser Leu
50 55 60

Glu Met Ser
65

<210> 37

<211> 66

<212> PRT

<213> Artificial S quence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 37

Lys Pro Val Ser Leu Ser Tyr Arg Cys Cys Phe Ala Tyr Ile Ala Arg
1 5 10 15

Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly Lys
20 25 30

Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln Val
35 40 45

Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala
50 55 60

Leu Asn
65

<210> 38

<211> 67

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 38

Lys Pro Val Ser Leu Ser Tyr Arg Cys Cys Phe Ala Tyr Ile Ala Arg
1 5 10 15

Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly Lys
20 25 30

Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln Val
35 40 45

Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser Leu
50 55 60

Glu Met Ser
65

<210> 39

<211> 67
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 39
Ser Pro Tyr Ser Ser Asp Thr Thr Pro Cys Cys Phe Ala Tyr Ile Ala
1 5 10 15
Arg Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly
20 25 30
Lys Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
35 40 45
Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
50 55 60
Ala Leu Asn
65

<210> 40
<211> 68
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 40
Ser Pro Tyr Ser Ser Asp Thr Thr Pro Cys Cys Phe Ala Tyr Ile Ala
1 5 10 15
Arg Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly
20 25 30
Lys Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
35 40 45
Val Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser
50 55 60
Leu Glu Met Ser
65

<210> 41

<211> 67

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 41

Ser	Pro	Tyr	Ser	Ser	Asp	Thr	Thr	Pro	Cys	Cys	Phe	Ala	Tyr	Ile	Ala
1				5					10					15	

Arg	Pro	Leu	Pro	Arg	Ala	His	Ile	Lys	Glu	Tyr	Phe	Tyr	Thr	Ser	Gly
			20					25					30		

Lys	Cys	Ser	Asn	Pro	Ala	Val	Val	Phe	Val	Thr	Arg	Lys	Asn	Arg	Gln
		35					40					45			

Val	Cys	Ile	Asp	Pro	Lys	Leu	Lys	Trp	Ile	Gln	Glu	Tyr	Leu	Glu	Lys
	50					55					60				

Ala	Leu	Asn
	65	

<210> 42

<211> 68

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 42

Ser	Pro	Tyr	Ser	Ser	Asp	Thr	Thr	Pro	Cys	Cys	Phe	Ala	Tyr	Ile	Ala
1				5					10					15	

Arg	Pro	Leu	Pro	Arg	Ala	His	Ile	Lys	Glu	Tyr	Phe	Tyr	Thr	Ser	Gly
			20					25					30		

Lys	Cys	Ser	Asn	Pro	Ala	Val	Val	Phe	Val	Thr	Arg	Lys	Asn	Arg	Gln
		35					40					45			

Val	Cys	Ala	Asn	Pro	Glu	Lys	Lys	Trp	Val	Arg	Glu	Tyr	Ile	Asn	Ser
	50					55					60				

Leu	Glu	Met	Ser
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65

<210> 43

<211> 68

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 43

Ser	Pro	Tyr	Ser	Ser	Asp	Thr	Thr	Pro	Cys	Pro	Cys	Phe	Ala	Tyr	Ile
1				5					10					15	

Ala	Arg	Pro	Leu	Pro	Arg	Ala	His	Ile	Lys	Glu	Tyr	Phe	Tyr	Thr	Ser
			20					25					30		

Gly	Lys	Cys	Ala	Leu	Gln	Ile	Val	Ala	Arg	Leu	Lys	Asn	Asn	Asn	Arg
		35				40						45			

Gln	Val	Cys	Ile	Asp	Pro	Lys	Leu	Lys	Trp	Ile	Gln	Glu	Tyr	Leu	Glu
	50					55					60				

Lys Ala Leu Asn

65

<210> 44

<211> 69

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 44

Ser	Pro	Tyr	Ser	Ser	Asp	Thr	Thr	Pro	Cys	Pro	Cys	Phe	Ala	Tyr	Ile
1				5					10					15	

Ala	Arg	Pro	Leu	Pro	Arg	Ala	His	Ile	Lys	Glu	Tyr	Phe	Tyr	Thr	Ser
			20					25					30		

Gly	Lys	Cys	Ala	Leu	Gln	Ile	Val	Ala	Arg	Leu	Lys	Asn	Asn	Asn	Arg
		35				40						45			

Gln	Val	Cys	Ala	Asn	Pro	Glu	Lys	Lys	Trp	Val	Arg	Glu	Tyr	Ile	Asn
	50					55					60				

Ser Leu Glu Met Ser
65

<210> 45
<211> 68
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 45
Ser Pro Tyr Ser Ser Asp Thr Thr Pro Cys Pro Cys Phe Ala Tyr Ile
1 5 10 15
Ala Arg Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser
20 25 30
Gly Lys Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg
35 40 45
Gln Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu
50 55 60
Lys Ala Leu Asn
65

<210> 46
<211> 69
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 46
Ser Pro Tyr Ser Ser Asp Thr Thr Pro Cys Pro Cys Phe Ala Tyr Ile
1 5 10 15
Ala Arg Pro Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser
20 25 30
Gly Lys Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg
35 40 45

Gln Val Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn
50 55 60

Ser Leu Glu Met Ser
65

<210> 47
<211> 67
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 47
Ser Pro Tyr Ser Ser Asp Thr Thr Pro Cys Cys Arg Phe Phe Glu Ser
1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
20 25 30

Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln
35 40 45

Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
50 55 60

Ala Leu Asn
65

<210> 48
<211> 68
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 48
Ser Pro Tyr Ser Ser Asp Thr Thr Pro Cys Cys Arg Phe Phe Glu Ser
1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
20 25 30

Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg Gln

35

40

45

Val Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser
 50 55 60

Leu Glu Met Ser
 65

<210> 49

<211> 67

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 49

Ser Pro Tyr Ser Ser Asp Thr Thr Pro Cys Cys Arg Phe Phe Glu Ser
 1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
 20 25 30

Asn Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln
 35 40 45

Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys
 50 55 60

Ala Leu Asn
 65

<210> 50

<211> 68

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

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 1 5 10 15

His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr Pro
 20 25 30

Asn Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln
35 40 45

Val Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser
50 55 60

Leu Glu Met Ser
65

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<211> 68
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<213> Artificial Sequence

<220>
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<400> 51
Ser Pro Tyr Ser Ser Asp Thr Thr Pro Cys Pro Cys Arg Phe Phe Glu
1 5 10 15

Ser His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr
20 25 30

Pro Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg
35 40 45

Gln Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu
50 55 60

Lys Ala Leu Asn
65

<210> 52
<211> 69
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:synthetic

<400> 52
Ser Pro Tyr Ser Ser Asp Thr Thr Pro Cys Pro Cys Arg Phe Phe Glu
1 5 10 15

Ser His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr
20 25 30

Pro Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys Asn Asn Asn Arg
35 40 45

Gln Val Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn
50 55 60

Ser Leu Glu Met Ser
65

<210> 53

<211> 68

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 53

Ser Pro Tyr Ser Ser Asp Thr Thr Pro Cys Pro Cys Arg Phe Phe Glu
1 5 10 15

Ser His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr
20 25 30

Pro Asn Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg
35 40 45

Gln Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln Glu Tyr Leu Glu
50 55 60

Lys Ala Leu Asn
65

<210> 54

<211> 69

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:synthetic

<400> 54

Ser Pro Tyr Ser Ser Asp Thr Thr Pro Cys Pro Cys Arg Phe Phe Glu

1 5 10 15
Ser His Val Ala Arg Ala Asn Val Lys His Leu Lys Ile Leu Asn Thr
20 25 30
Pro Asn Cys Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg
35 40 45
Gln Val Cys Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn
50 55 60
Ser Leu Glu Met Ser
65

AS
ADNA